Atty. Docket No. 393551

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A system for melting interfacial ice, comprising:
a first electrode embedded into or coated onto an object to be protected from ice formation;
a second electrode, the first electrode and the second electrode defining an interelectrode space between the first electrode and the second electrode, the first electrode and the second electrode defining an interelectrode distance that separates the first electrode and the second electrode; and
an AC power source for providing an AC voltage across the first and second electrodes having a frequency greater than 1000 Hz and less than 300 KHz wherein the interfacial ice is melted upon application of the AC voltage.

2. (Original) A system as in claim 1, wherein the AC power source provides an AC voltage in a range of about from 10 volts to 500 volts.

3. (Original) A system as in claim 1, further comprising an electrical insulator located in the interelectrode space.

4. (Original) A system as in claim 3, wherein the insulator comprises a nonconductive rubber windshield wiper blade.

5. (Original) A system as in claim 1, wherein the interfacial ice is located at an ice-solid interface.

6. (Original) A system as in claim 5, wherein the interfacial ice is located in the interelectrode space.

7. (Original) A system as in claim 1, wherein the interelectrode distance has a value in a range of about from 50 μm to 500 μm.

8. (Original) A system as in claim 1, wherein the interelectrode distance has a value less than 50 μm.

9. (Original) A system as in claim 1, wherein the interelectrode distance has a value greater than 500 μm.

10. (Original) A system as in claim 1, wherein the first electrode comprises a layer of conductive glass.

11. (Original) A system as in claim 1, wherein the second electrode comprises a layer of conductive glass.

12. (Original) A system as in claim 1, wherein the first electrode comprises a transparent conductive metal oxide.

13. (Original) A system as in claim 1, wherein the first electrode comprises a conductive grid.

14. (Original) A system as in claim 13, wherein the conductive grid includes metal strips.

15. (Original) A system as in claim 1, wherein the second electrode comprises a conductive grid.

16. (Original) A system as in claim 1, wherein the first and second electrodes are interdigitated.

17. (Original) A system as in claim 1, wherein the second electrode comprises a conductive rubber windshield wiper blade.

18. (Currently Amended) A method for melting interfacial ice at an ice interface, comprising the steps of:

embedding or coating an object to be protected from ice formation with a first electrode; ~~and~~

providing a second electrode wherein an interelectrode distance that separates the first electrode and the second electrode has a value in a range of about from 50 μm to 500 μm; and

applying an alternating electric field proximate to the ice interface for generating a resistive AC current in the interfacial ice.

19. (Previously Presented) A method as in claim 18, wherein the step of applying an alternating electric field includes: applying an alternating electric field having a frequency greater than 1000 Hz and less than 300 kHz.

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20. (Currently Amended) A method as in claim 18 wherein the step of applying an alternating electric field includes: applying an AC voltage having a frequency greater than 1000 Hz and less than 300 kHz across ~~a first electrode and a second electrode separated from each other by an~~ the interelectrode distance.

21. (Original) A method as in claim 20 wherein applying an AC voltage includes applying a voltage in a range of about from 10 volts to 500 volts.